ABSTRACT OF THE DISCLOSURE

A method for calibrating a reception signal in a smart antenna system includes: locally generating a reference signal, converting the reference signal into an RF signal, and dividing the RF signal into as many signals as the number of antennas.

Phase information of the divided RF signals is then detected. This is followed by outputting a plurality of reference signals having the same phases by performing phase shifting operation, converting an RF signal into a baseband signal, and calibrating the baseband signal by multiplying the baseband signal by a calibration vector. An apparatus for calibrating a reception signal in a smart antenna system includes a reference signal generating unit and an array antenna unit. The reference signal generating unit includes a local reference signal generator, an RF converter, a splitter, a phase detector, and a phase shifter. The array antenna unit includes an antenna, a front-end part, an RF transmitter, an RF receiver, and a baseband processor. A process of calculating complex conjugate numbers and a complex conjugate number calculator may also be included. In this method, because the same reference signals are input into the array antenna unit, the calibration process may be greatly simplified.